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**Technical Report: Fish remains from Manor House Hotel,
Lindisfarne, Northumberland (MHH11)**

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Summary

A small assemblage of sieved fish remains was analysed from a medieval site on Lindisfarne. Haddock, cod and whiting were the most commonly consumed species, with small numbers of other taxa recovered, including herring and flatfish. Most were probably caught in local inshore or coastal waters, and most were only of moderate size. It is likely the remains include gutting and processing waste (including tiny fish that may have been stomach contents from fish or sea birds), as well as kitchen or table waste.

KEYWORDS: LINDISFARNE, FISH, ZOOARCHAEOLOGY, MEDIEVAL

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Fish remains from Manor House Hotel, Lindisfarne, Northumberland (MHH11)

Introduction and methods

A small assemblage of sieved fish remains was recovered from excavations at Manor House Hotel, on the island of Lindisfarne. Three contexts contained fish bone: a midden fill, a pit fill and fill from a stone-lined feature. A total of 161 bones could be identified to species or species group, with a further 699 fragments remaining unidentified. The contexts have been broadly dated as medieval (O'Brien, pers. comm.).

This assemblage was recorded using the York System, an Access database utility designed for recording zooarchaeological assemblages. The fish reference collection held in the Department of Archaeology, University of York was used for identification. The recording protocol is fully detailed in Harland *et al.* (2003). Briefly, this entails the detailed recording of the 18 most commonly occurring and easily identified elements, termed quantification code (QC) 1. For each of these, the element, species, approximate size, side, fragmentation, texture and any modifications are recorded in detail. Fish vertebrae (QC2) are recorded in more limited fashion, with counts, element and species recorded. Some elements are unusual and particularly diagnostic, like otoliths, and are fully recorded (QC4). The final category of material (QC0), includes elements not routinely identified as well as unidentifiable material. Elements that are from very unusual species, or that are butchered, are recorded in detail even if not from the QC1 category. Data analysis involved structured database queries, as well as manipulation using Excel.

Results

This assemblage produced 161 bones that could be identified. The 3 separate contexts have been grouped for the purposes of discussion, although should later dating reveal a chronological stratigraphy, this may need to be reconsidered. However, there were no great differences between contexts regarding taxonomic diversity or fish sizes.

Full taphonomic information was recorded for the 30 QC1 elements in the assemblage. Most bones had a 'good' surface texture, but fragmentation was variable (Table 1). Overall, the assemblage was not in the best condition, which probably accounts for several identifications that could only be made at the family level.

Burning was observed on 13 bones, 5 of which were charred and 8 of which were calcined. A whiting caudal vertebrae and a cod family abdominal vertebrae were both recorded as calcined, but the remainder could not be identified. Other modifications included 2 vertebrae that were crushed, identified as haddock and mackerel. These could have resulted from human or animal consumption. One further unidentified fragment had some green staining on it, presumably from proximity to a metal object.

Taxa belonging to the cod family dominated the assemblage, with only 20% of identifications originating from other families. Haddock was the most common species, representing 39% of identified fish, followed by cod at 16% (Table 2; see Table 5 for listing of common and scientific names). Whiting and cod family (a category indicating those specimens that could not be identified to species level) were both present at 11%. Atlantic herring were the next most common species, at 6%, followed by halibut family at 5%. Others present, in rank order, included: ray family, herring family, salmon and trout family, saithe, sand eel family, saithe/pollack, rocklings, Scorpaeniformes order, gurnard family, Atlantic mackerel, Perciformes order, flounder/plaice and flatfish order. Included in the unidentified fish count are 48 ray family teeth. These are unusual, but are difficult to properly quantify because one individual can have many teeth.

All of the taxa found at Manor House Hotel could have been caught in the sea. The salmon and trout family are anadromous, returning to fresh water to spawn. The 2 vertebrae from this family could therefore indicate some fresh water fishing – although given the location of the site, sea fishing is a more likely explanation for all remains found here.

Fish sizes were recorded for cranial elements (Table 3), based on comparison with reference collection specimens of known lengths. Most fish were small, at less than 50cm total length. Almost all haddock, the most common taxa, were between 30 and 50cm in length, suggesting a preference and targeted fishery for this size. The cod that could be sized were more variable, with 1 specimen of 30-50cm, 1 of 50-80cm and 2 of 80-100cm total length. These final 2 identifications fall within the size range of preserved, traded cod, and will be discussed further below. The single saithe that could be sized indicated a fish of 15 to 30cm total length, a size common to immature saithe that prefer inshore waters (Froese and Pauly 2011). The whiting too were likely caught in inshore or coastal waters. Indeed, most of the fish found here could have been caught near Lindisfarne, or within 10 miles of the island (where depths of at least 50m are common (Anon. 2007)). These fish could have been caught using hook and line fishing. Some could have been caught from the shore (like the small saithe), while most were probably caught using a small boat in inshore or coastal waters not far from Lindisfarne. Nets or fish traps may have been used as well.

Two butchery marks were noted. One was a cod abdominal vertebra (group 3), diagonally chopped from dorsal towards ventral. This was from a fish of about 40cm total length. This may have occurred during food preparation, in order to divide the fish into anterior and posterior portions. The second butchery mark was a tiny knife mark found on the lateral (outside edge) of a haddock cleithrum. This was from a fish of 30 to 50cm total length. It may have been made when removing the head from the body, or when filleting the fish.

Some of the smallest fish could easily have been stomach contents from the larger ones (Alderstein and Welleman 2000). These could include the tiny vertebrae from the rocklings, the sand eel family, the Scorpaeniformes order, and the Perciformes order, none of which are commonly eaten by humans at such a small size. These small fish are also commonly eaten by seabirds, and might therefore be stomach contents from wild birds. This probably indicates on-site gutting and discarding of fish and/or birds, in addition to the kitchen and table waste which make up the majority of the assemblage.

The small quantity of remains makes it difficult to ascertain body part representation. For the more common taxa, both cranial and vertebral elements were found (Table 4). The cod and cod family fish are generally smaller than ones typically preserved, and thus were more likely to have been eaten fresh. However, both cod cleithra fragments were from fish of 80-100cm total length. No other elements were recorded from fish of this size. These are within the range of sizes for preserved cod family fish, which are commonly represented only by vertebrae and cleithra. The heads remain at the processing site, and the resulting preserved product often travelled some distance around the North Sea or Baltic region before reaching the consumer site (Barrett *et al.* 2011). It is therefore possible that some preserved cod was consumed, but this must remain speculation given the small size of the assemblage.

Conclusions

This excavation produced a small assemblage of fish remains, all recovered by sieving. Haddock, cod, whiting and other cod family fish were most commonly consumed, but a limited variety of other taxa were present, including herring, some flatfish and salmon and trout family fish. Most likely some of the smallest remains were stomach contents from larger fish, or from sea birds, suggesting the assemblage includes gutting/processing and kitchen or table waste. All of the fish found could have been caught in the sea, and most likely were caught in inshore or coastal waters within a few miles of Lindisfarne. Although a

few fragments *might* represent the remains of preserved cod, most of the fish consumed was most likely from local waters and was eaten when freshly caught.

The assemblage could be associated with the monastic settlement, re-established in the medieval period. The Manor House Hotel site is located adjacent to the monastic settlement, and thus the assemblage could have been associated with secular or monastic consumption. The presence of numerous domestic mammal and bird fragments (Anon. 2011) suggests a broad diet of red meat, fowl and fish was consumed. Fish consumption was important in the medieval period because of Christian fasting requirements in both secular and religious contexts (Barrett *et al.* 2004a, b). Further work on comparing the fish, mammal and bird remains from this site would be useful in ascertaining the relative importance of fish to the local diet.

Table 1: Taphonomy

Percent completeness	Count
1-20%	2
20-40%	9
40-60%	9
60-80%	9
80-100%	1

Texture	Count
Good	22
Fair	8

Table 2: Summary of identified taxa and element type

Taxa	Cranial (QC1)	Vertebral (QC2)	Unusual (QC4)	Total	% identified
Ray Family		2	3	5	3%
Atlantic Herring	1	9		10	6%
Herring Family		2		2	1%
Salmon & Trout Family		2		2	1%
Cod	4	22		26	16%
Haddock	16	46		62	39%
Saithe	1	1		2	1%
Saithe/ Pollack		1		1	1%
Whiting	5	12		17	11%
Rocklings		1		1	1%
Cod Family	1	16		17	11%
Scorpaeniformes Order		1		1	1%
Gurnard Family		1		1	1%
Sand Eel Family		2		2	1%
Atlantic Mackerel		1		1	1%
Perciformes Order		1		1	1%
Flounder/ Plaice	1			1	1%
Halibut Family	1	7		8	5%
Flatfish Order		1		1	1%
Total identified	30	128	3	161	100%
Unidentified				699	
Grand total				861	

Table 3: Fish total length estimates

Taxa	15-30cm	30-50cm	50-80cm	80-100cm
Atlantic Herring	1			
Cod		1	1	2
Haddock	1	15		
Saithe	1			
Whiting	1	4		
Cod Family	1			
Flounder/ Plaice		1		
Halibut Family		1		

Table 4: Element summaries for cod family fish

Element	Cod	Haddock	Saithe	Whiting	Saithe/Pollack	Rocklings	Cod Family
Articular		4					
Ceratohyal	2			1			
Cleithrum	2	2		1			
Dentary		3					
Hyomandibular		1					
Maxilla		1					
Posttemporal				1			
Premaxilla		1					
Preopercular				1			1
Quadrate		1	1				
Scapula		1					
Supracleithrum		1		1			
Vomer		1					
Abdominal Vert. Group 1		6					4
Abdominal Vert. Group 2	2	4		1		1	
Abdominal Vert. Group 3	8	12	1	4			4
Caudal Vertebra		1					3
Caudal Vertebra Group 1	7	12		3	1		
Caudal Vertebra Group 2	5	11		4			5
Total	26	62	2	17	1	1	17

Table 5: Common and scientific names

Common name	Scientific name
Ray Family	Rajidae
Atlantic Herring	<i>Clupea harengus</i>
Herring Family	Clupeidae
Salmon & Trout Family	Salmonidae
Cod	<i>Gadus morhua</i>
Haddock	<i>Melanogrammus aeglefinus</i>
Saithe	<i>Pollachius virens</i>
Saithe/Pollack	<i>Pollachius</i>
Whiting	<i>Merlangius merlangus</i>
Rocklings	Ciliata/Gaidropsarus
Cod Family	Gadidae
Scorpaeniformes Order	Scorpaeniformes
Gurnard Family	Triglidae
Sand Eel Family	Ammodytidae
Atlantic Mackerel	<i>Scomber scombrus</i>
Perciformes Order	Perciformes
Flounder/ Plaice	<i>Pleuronectes flesus/Pleuronectes platessa</i>
Halibut Family	Pleuronectidae
Flatfish Order	Heterosomata (Pleuronectiformes)

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